INTELLIGENT TRANSPORTATION SYSTEMS (ITS) DEPLOYMENT INITIATIVES PROJECT

BACKGROUND

Many California communities are now using computers, communications, electronics, and other Intelligent Transportation Systems (ITS) to improve the safety, mobility, economic vitality and quality of life of their citizens. ITS offer productivity and efficiency benefits for all transportation modes and provide a true opportunity to deliver long envisioned seamless transportation services. Virtually every known ITS application has been implemented or is being considered for implementation in California. Below is a summary of California implementations parsed into six Primary System categories:

TRANSPORTATION MANAGEMENT

- Communications networks
- Detection and surveillance systems (CCTVs, loops, weather sensors, etc.)
- Railroad and trolley grade crossing systems
- Signal preemption systems
- Transportation management and operations centers
- Incident management systems (freeway service patrols, motorists assistance patrols)
- Signal coordination systems
- Event management systems
- Ramp metering and other traffic control systems
- Rural surveillance and mayday systems
- Disaster response systems
- Automated highway maintenance and operations
- Hazardous materials management systems
- Vehicle probe systems

TRAVELER INFORMATION

- Traveler information technologies (changeable message signs (CMS), highway advisory radio (HAR), kiosks, internet services, broadcast and personalized commercial traffic reports, etc.)
- Personal communications devices
- Parking information systems
- Transit information systems (smart bus and rail stops, kiosks, etc.)

PUBLIC TRANSPORTATION

- Transit priority systems
- Smart shuttle systems
- Fleet management systems
- Computer-aided dispatch systems
- Bus radio and communication systems
- Rideshare operations
- Automatic vehicle location and Identification systems

GOODS MOVEMENT

- Automatic vehicle location and Identification systems
- Electronic clearance systems
- Goods tracking and identification systems
- Terminal access improvements
- Weigh-in-motion systems

ELECTRONIC PAYMENT

- Automatic fare payment systems
- Electronic toll collection

VEHICLE CONTROL AND SAFETY

- In-vehicle devices (vision enhancement, obstacle detection, collision warning systems, etc)
- Driver, vehicle and cargo condition monitoring
- Commercial vehicle safety systems
- Automated highway systems

ITS is a vertical market not a stand-alone industry limited to the transportation sector. The cumulative market is forecast to reach $10.8 billion by 2010 in California alone. ITS is not just public procurement projects, by 2010, over 90 percent of ITS products and services will be sold to individual consumers or commercial customers. ITS therefore provides a unique opportunity for California's transportation agencies to address local and regional transportation challenges through public/private partnerships that leverage scarce public resources with those of a multi-billion dollar marketplace.

To achieve a seamless transportation network and foster the market for ITS technologies, there needs to be statewide consensus on ITS priorities that feeds into a coherent policy framework for coordinated ITS deployment.

The California ITS Deployment Initiatives project strives to build this consensus through development of a genuine public/private partnership--leveraged from multiple existing partnerships, including private industry, Metropolitan Planning Organizations (MPOs), Regional Transportation Planning Agencies (RTPAs), local government, academia, Caltrans and other state agencies—by which stakeholders will collaboratively:

- Formulate a vision for California mobility as enabled by ITS.
- Identify common goals and objectives.
- Define private/public partnerships for ITS deployment.
- Implement a statewide "system of systems" which will leverage investments and provide the greatest benefits across the state.
- Identify strategies for carrying out public policy goals, including optimizing returns on investments involving private sector participation and market opportunities.

The project will provide specific guidance on ITS deployment to Caltrans, MPOs, RTPAs, and other ITS implementers. The fundamental document will be used by Caltrans in advanced system planning and will provide a roadmap to MPOs and RTPAs for regional ITS deployment within an integrated statewide system. This guidance will assist Caltrans, MPOs and RTPAs in accelerating ITS deployment by mainstreaming it within their traditional planning and programming processes.

Definition of consensus statewide user and system requirements will allow Caltrans, MPOs and RTPAs to deploy ITS systems, which better address user needs and enable seamless regional and statewide travel. A California system architecture, adapted from the national ITS architecture, will enable Caltrans and other implementers to greatly leverage their investments by designing once and then implementing many times throughout the state.

Consensus statewide priority projects will provide a focal point for Caltrans, MPOs, and RTPAs to partner with each other and the private sector in deploying intelligent transportation services. The definition of public/private roles within the deployment of these services will allow public agencies to better target their scarce resources and private industry to better target business opportunities in the state.

The successful partnering of Caltrans, other public agencies and private industry in California's ITS deployment will provide new solutions to local transportation problems, leverage significant new funding for transportation, enable seamless statewide travel, and establish a globally competitive California ITS industry. The California ITS Deployment Initiatives project will assist Caltrans and other ITS implementers to define these partnerships, functions and technical requirements for successful deployment of ITS products and services in California.